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REMARKS

By virtue of this Amendment, claims 1, 38 and 42 are amended to add the proviso that the metal-containing compound is not metal pyrithione. Support for this amendment may be found in the originally submitted claims because if the metal-containing compound is metal-pyrithione, there will not be any transchelation reaction between the core and the soluble pyrithione salts.

No claims are added. Accordingly, claims 1, 38, 40-42 and 46 are presented for further examination. Applicants submit no new matter has been added.

Objections to the Specification

The amendment to the abstract entered 10/19/2007 is objected to as allegedly introduce new matter to the disclosure. Specifically, the outstanding Office Action alleges notes that by changing "comprising" to "consisting essentially of," Applicants has redefined the invention from a core and shell open to any other materials to a core and shell, each of which excludes material that does not materially affect the basic and novel characteristics of the claimed invention. See page 2 of the outstanding Office Action.

Responsive to this objection, the phrase "consisting essentially of" has been changed back to "comprising." Accordingly, Applicants submit the objection is overcome.

Rejections/Objections under 35 USC §112

The Examiner rejected claims 42 and 46 under 35 U.S.C. §112, first paragraph as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the Examiner states there is no support in the specification for metal or metal-containing compounds other than copper salts, copper hydroxide or cuprous oxide with respect to copper pyrithione for the presently claimed range.

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By this amendment, claim 42 is amended to recite in the proviso that when the metal-containing compound is a copper containing salt, copper hydroxide or cuprous oxide, and the metal pyrrhione is copper pyrrhione, the metal pyrrhione and the metal-containing compound are present within a weight range of ratios of from 1:20 to 20:1. Support for the amendment may be found at page 10, line 23 to page 11, line 2. Accordingly, Applicants submit the present rejection has been overcome and respectfully request the Examiner withdraw the rejection.

Rejections under 35 USC §102

Claims 1, 38, 40-42 and 46 are rejected under 35 U.S.C. §102(b) as anticipated by U.S. Patent No. 5,916,947 to Morris, et al.

Morris, et al. discloses a particle mixture in powder or slurry form comprising zinc oxide and a photosensitizer, wherein zinc oxide is in photoelectric proximity to the photosensitizer. (Col. 2, lines 42-52). The photosensitizer could be zinc pyrrhione (hereafter ZPT). Morris et al. discloses further in the claims that photosensitizers is surface coated onto zinc oxide by mixing the photosensitizer and zinc oxide in solution.

In contrast, the present invention claims a biocidal composition comprising composite particles. The composite particles contain a shell and a core. The core of the present invention consists essentially of a metal or metal-containing compound. The shell of the present invention contains a metal pyrrhione that is formed by a chemical reaction of a water-soluble pyrrhione and a portion of the metal or metal -containing compound of the core.

Applicants respectfully submit that the Morris et al. product is structurally different from the instantly claimed product. Specifically, since the zinc pyrrhione photosensitizer cannot transchelate with the zinc oxide, there can be no reaction at the interface of the those two compounds in view of the common zinc ion present in both. Accordingly, the product prepared by the process disclosed by Morris et al. is a mixture of two discrete particles that are held together through physical forces.

On the other hand, the composite particles recited in the instant claims contain a shell and a core, wherein the shell is formed by a transchelation reaction of a water-soluble salt of pyrrhione with a portion of the core. In another word, the composite particles according to the claimed invention contain a core and shell wherein at the interface of the core and shell, there is

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a chemical bonding. Applicants submit that Morris et al. provides no suggestion or teaching in favor of such a composite particle. Accordingly, the Morris et al. product itself is different from, and not suggestive of, the instantly claimed composition. Therefore, Applicants submit that the instant rejection of the claims under 35 U.S.C. §102(e) is untenable and should be withdrawn.

Claims 1, 38, 42 and 42 were rejected under 35 USC §102(e) as being anticipated by U.S. Patent No. 6,162,446 to Hani, et al. Hani et al. discloses in-situ transchelation product of a zinc compound such as zinc oxide and a pyrithione salt or pyrithione acid in a personal care composition. There is no suggestion in Hani et al. of composite particles having a core and a shell. To the contrary, what Hani et al. disclosed is discrete particles of zinc pyrithione. The teaching of the formation of discrete zinc pyrithione particles does not disclose or suggest any composite particles having a shell and a core, much less the ones as recited in the instant claims.

The outstanding Office Action takes the position that all particles inherently comprise a shell and core, and alleges that the limitation that the core and shell differ in composition is not set forth in the instant claims, accordingly, the Office Action concludes that Hani et al. anticipates the instantly claimed invention. Applicants respectfully submit that the instant claims, as amended, clearly set forth that the composition of the core and shell is different. Applicants submit further that Hani et al. does not teach or suggest a composite particle having a core and shell wherein the core and shell have different compositions. Accordingly, a withdrawal of the rejection over Hani et al. is respectfully requested.

Claims 1, 38 and 42 were rejected under 35 USC §102(e) as being anticipated by U.S. Patent No. 6,465,015 to Mohseni, et al. Mohseni et al. discloses a method for making a suspension of non-agglomerated particles of pyrithione salts. The method includes reacting pyrithione or a water-soluble salt of pyrithione and a water-soluble polyvalent metal salt in an aqueous medium and in the presence of a dispersing additive. Similar to Hani et al., Mohseni et al. only discloses discrete particles of pyrithione salts.

There is no suggestion in Mohseni et al. of composite particles wherein the core is, for example, zinc or zinc oxide and the shell consists essentially of metal pyrithione wherein the metal pyrithione is formed by transchelation of metal from the core at the core/shell interface as instantly claimed. Applicants respectfully submit that the teaching of the formation of discrete

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zinc pyrithione particles does not disclose or suggest composite particles having a shell and a core wherein the core and shell have different compositions, much less those as instantly claimed. Accordingly, a withdrawal of the instant rejection under 35 U.S.C. § 102(e) is respectfully requested.

In summary, Applicants submit that none of the references, alone or in combination, anticipate or make obvious the invention as presently claimed and that the application is now in condition for allowance. Therefore, Applicants respectfully request consideration of the amended claims, and an early receipt of a Notice of Allowance of the claims as amended.

Any fees due with this Reply may be charged to Deposit Account 23-1665 under Customer Number 27267.

Respectfully submitted,
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